

ATTACHMENT D

Fourmile Canyon & Wonderland Creek Flood Mitigation Planning Internal City Staff Review Comments and Utilities Planning and Project Management Response Dated September 14, 2007

The following is a summary of review comments received from internal city staff and Utilities Planning and Project Management staff responses.

Sue Prant – Transportation Division

1) *Ensure that proposed new bike facilities are more clearly called out on the map.*

Response: Mapping has been made available in digital format (AutoCAD format). Bike facilities can be identified by staff and rendered in more clearly defined line types and colors. More clearly defined line types will be integrated during the upcoming Phase B - Preliminary Design.

2) *Make the new path connecting under Foothills Parkway and the RR a priority, as discussed. This is a priority with regards to missing bike and pedestrian connections in the City.*

Response: This intersection is being given special status due to the urgent need for a safer crossing of the railroad tracks. TIP funding is being sought for this project and stormwater is funding the matching fee for this project. TIP includes 3 project sites but this intersection is the number one priority.

Maureen Spitzer - Parks and Recreation Department

1) *From the information that you have provided, it appears that only the Violet and Elks parcels (which are currently undeveloped) will be affected by the flood mitigation plans. It appears that the stream channel will not be restricted (channelized) in the location of these parcels and that flood conveyance will occur following historic patterns.*

The Violet and Elks parcels are identified as future neighborhood parks in the 2006 Parks and Recreation Master Plan. Both sites are in densely populated areas that currently do not meet the service area standards for park services. Significant areas of both parcels appear to be located within the 'High Hazard' and 'Conveyance' flood zones. Please confirm that it will be possible to develop these parcels as neighborhood parks. Typical park development includes planting vegetation (trees and shrubs), re-grading and contouring to support park activities, installation of irrigation, topsoil, turf areas, play equipment areas, open air shelters, restrooms and parking areas. It is critical that this type of typical park development can occur in order to meet the park service standards identified in the 2006 Parks and Recreation Master Plan.

It is essential to preserve the mature trees and natural features at both locations. In particular, the tree protection at the Elks site will be extensive. Forestry staff needs to meet with Greenways engineers/staff on site prior to the projects receiving final approval to more thoroughly evaluate the existing trees, discuss possible construction impacts and identify required tree protection.

It appears that the recommendations of the flood mitigation plan are compatible with the future development of the Violet and Elks parcels and that Parks and Recreation can support the recommendations of the study as long as the active recreation value of the Violet and Elks site will be preserved and these parcels can be developed in a manner consistent with the other neighborhood park development within the city.

Response: The above assumptions are correct and Utilities will work with Parks to develop these sites in an effective manner with regard to recreation, preservation of existing trees and flooding. More detail regarding these issues will be provided and addressed during the upcoming Phase B - Preliminary Design.

Bob Crifasi - Open Space and Mountain Parks Department

1) *From the information that you provided, the only component of this project that could affect OSMP lands is along Fourmile Canyon Creek in the vicinity of 4th and Lee Hill road. For that area, the draft project map included a proposal to "excavate north over 2' deep for additional channel capacity". By my brief examination of the project map, it looks like the proposed excavation is to be approximately 300 by 100 feet in area. Since, as you stated, this particular aspect is of generally low priority relative to the key elements of the plan, the likelihood of any activities taking place anytime soon seem very low. Consequently, I recommend that the documents that are forwarded to the various boards and council for approval (e.g. project approval documents, CEAP, or board memo statements) state that this project element on OSMP land is tentatively recommended by your office pending full evaluation by OSMP staff prior to rendering any final decision to implement this element of the overall plan. Further, if this plan element remains viable, OSMP will need to evaluate whether using this land for flood purposes would constitute a disposition of OSMP land, thus trigger a disposition review by the OSBT and City Council.*

Similarly, to the extent that new proposals emerge that involve activities on OSMP land, complete vetting by OSMP staff will be necessary as a prerequisite to an implementation decision. I believe that if we can get language of this nature included, we can both minimize the need to expend significant OSMP staff time on this project and simultaneously avoid the need to prematurely perform detailed resource evaluations that would unnecessarily delay this important project. As a general matter, OSMP supports the development of a planned approach to various habitat improvements and structural elements (such as designing low impact drop structures that allow fish migration) to enhance the ecological function of both Wonderland and Four Mile Canyon Creeks. The Greenways Master Plan identifies some opportunities, and there are probably others that arise in response to the specific actions proposed in the flood plan.

Response: Utilities staff concurs that the low priority project elements on OSMP land are tentative and will require a more complete evaluation by OSMP staff prior to any final decisions regarding implementation.

2) *I recommend clarifying the map legends to avoid creating the false impression that flood channel improvements will occur throughout the high hazard areas aside from the areas specifically identified on the maps.*

Response: Staff will look at updating the legend with more specific language. Legend clarifications will also be integrated in the upcoming Phase B - Preliminary Design.

Betty Solek – Utilities Division - Water Quality and Environmental Services

1) *Maps of recommended alternates for both 4 Mile Canyon and Wonderland Creek do not include specific references to environmental opportunities. I've hand marked these maps with specific references that apply to HHZ containment and 100 year improvements, as well as a few other areas. I've made the additions general so they'll include the detailed opportunities identified in Chapter 7.*

Response: These comments will be considered by staff and added to selected plan schematic drawings during preliminary design. More detail regarding environmental opportunities will be provided and addressed during the upcoming Phase B - Preliminary Design.

2) *HHZ Containment alternate: The legend for both 4 Mile and Wonderland Creeks includes a symbol to show "existing property removed from HHZ". Fourmile Canyon maps show only 3 structures with this symbol on all the maps and I don't see any structures with this symbol on Wonderland Creek maps. Is this symbol missing? If this observation is correct, what are the benefits of the HHZ alternates? What is the basis of the public costs shown in Table ES.1 on p. ES-r. Are there roads removed from the HHZ to address life safety issues? The explanation on ES-4 of HHZ benefits does not explain how many structures, roads, etc. would be improved or protected. The HHZ containment alternate also has implications for environmental & habitat preservation. In some reaches (ex. Reach 5 of 4 Mile), disturbances due to re-configuration of the channel create opportunities to improve habitat conditions. However, in Reach 1A of Fourmile, we are lacking habitat data to understand what the potential impacts from HHZ containment are likely to be. At a minimum, the map should reflect a recommendation to collect habitat quality data to guide design of HHZ overbank excavations.*

Response: The symbol is not missing. Property acquisition is only feasible for select structures due to cost and availability. HHZ containment is intended to contain all of the truly dangerous flood flows within the channel. A note shall be added to the plans with a recommendation to collect habitat quality data. More detail regarding these issues will be provided and addressed during the upcoming Phase B - Preliminary Design.

3) *Reach 6 Wonderland Creek: Overbank excavation is shown at the upstream end of this reach. The Greenways MP identifies day-lighting Wonderland Creek north of*

Centennial Field. Would there be flexibility in this alternate to day-light Wonderland Creek and also achieve HHZ containment targeted by overbank excavation further upstream? Or would it make more sense to do overbank excavation in the section where 2 structures in the HHZ are proposed to be purchased and combine that approach with day-lighting Wonderland Creek?

Response: This alternative will be considered and discussed during the upcoming Phase B - Preliminary Design.

4) Stormwater Management MP: Are there BMP's or stormwater system improvements in this plan that should be incorporated into the map of alternates?

Response: Staff is processing this report as a flood mitigation study and has not analyzed BMP's during this study. Integration of BMP's and stormwater system improvements will be considered during the upcoming Phase B - Preliminary Design.

5) In stream construction practices: If approved, the flood projects in this plan represent a substantial work effort for many years. The Greenways MP and Chapter 7 identify the use of bio-stabilization techniques and grade control as opportunities to enhance aquatic habitat. The cover letter from UDFCD indicates that the Final Plan includes direction on design of such design features as drop structures and bank stabilization techniques, which are to be used for these projects. Generalized design drawings could provide the opportunity to think thru habitat function and maintenance issues. Some direction is provided in the notes on Figures 7-3 thru 7-5, but the conceptual design drawings would provide more details. The Final Plan should also be more specific about habitat and water quality opportunities that will be incorporated into the Selected Plan.

Response: Staff acknowledges this comment and will address these issues in the upcoming Phase B – Preliminary Design.

**Betty Solek – Utilities Division - Water Quality and Environmental Services –
(Additional Comments from Schematic Plan Sheets)**

1) Incorporate restoration and environmental opportunities per Chapter 7

Response: Staff will consider restoration opportunities and include them in the upcoming Phase B – Preliminary Design.

2) Reconstruct Farmer's Ditch to remove flood and fish migration barrier per Chapter 7

Response: This component of the project will be investigated during the upcoming Phase B – Preliminary Design.

3) Preserve high quality wetlands per GWMP.

Response: The preservation of wetlands will be a strong objective during the upcoming Phase B – Preliminary Design.